National Assessment of the Potential Impact of Climate Change (NACC): Climate Change Impacts on the United States

Hearing before the Senate Committee on Commerce, Science, and Transportation

Testimony of Prof. S. Fred Singer *July 18, 2000*
President, The Science & Environmental Policy Project www.sepp.org
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Mr. Chairman, Ladies and Gentlemen,

My name is Fred Singer. I am Professor emeritus of Environmental Sciences at the University of Virginia and the founder and president of The Science & Environmental Policy Project (SEPP) in Fairfax, Virginia, a non-partisan, non-profit research group of independent scientists. We work without salaries and are not beholden to anyone or any organization. SEPP does not solicit support from either government or industry but relies on contributions from individuals and foundations.

We hold a skeptical view on the climate science that forms the basis of the National Assessment because we see no evidence to back its findings; climate model exercises are NOT evidence. Vice President Al Gore keeps referring to scientific skeptics as a "tiny minority outside the mainstream." This position is hard to maintain when more than 17,000 scientists have signed the Oregon Petition against the Kyoto Protocol because they see “no compelling evidence that humans are causing discernible climate change.”

Others try to discredit scientific skeptics by lumping them together with fringe political groups. Such ad hominem attacks are deplorable and have no place in a scientific debate. To counter such misrepresentations, I list here qualifications relevant to today’s hearing.

Relevant Background

I hold a degree in engineering from Ohio State and a Ph.D. in physics from Princeton University. For more than 40 years I have researched and published in atmospheric and space physics. I received a Special Commendation from President Eisenhower for the early design of satellites. In 1962, I established the U.S. Weather Satellite Service, served as its first director, and received a Gold Medal award from the Department of Commerce for this contribution.

Early in my career, I devised instruments to measure atmospheric parameters from satellites. In 1971, I proposed that human production of the greenhouse gas methane, through cattle raising and rice growing, could affect the climate system. This was also the first publication to discuss an anthropogenic influence on stratospheric ozone. In the late 1980s, I served as Chief Scientist of the Department of Transportation and also provided expert advice to the White House on climate issues.

Today, by presenting evidence from published peer-reviewed work, I will try to rectify some erroneous claims advanced at the May 17 NACC hearing.

1. There is no Appreciable Climate Warming

Contrary to the conventional wisdom and the predictions of computer models, the Earth's climate has not warmed appreciably in the past two decades, and probably not since about 1940. The evidence is abundant.

a) Satellite data show no appreciable warming of the global atmosphere since 1979. In fact, if one ignores the unusual El Nino year of 1998, one sees a cooling trend.

b) Radiosonde data from balloons released regularly around the world confirm the satellite data in every respect. This fact has been confirmed in a recent report of the National Research Council/National Academy of Sciences **[1].**

c) The well-controlled and reliable thermometer record of surface temperatures for the continental United States shows no appreciable warming since about 1940. The same is true for Western Europe. These results are in sharp contrast to the GLOBAL instrumental surface record, which shows substantial warming, mainly in NW Siberia and subpolar Alaska and Canada.

d) But tree-ring records for Siberia and Alaska and published ice-core records that I have examined show NO warming since 1940. In fact, many show a cooling trend.

Conclusion: The post-1980 global warming trend from surface thermometers is not credible. The absence of such warming would do away with the widely touted "hockey stick" graph (with its "unusual" temperature rise in the past 100 years); it was shown here on May 17 as purported proof that the 20th century is the warmest in 1000 years.

2. Regional Changes in Temperature, Precipitation, and Soil Moisture?

The absence of a current global warming trend should serve to discredit any predictions from current climate models, including the extreme warming from the two models (Canadian and British) selected for the NACC.

Furthermore, the two NACC models give conflicting predictions, most often for precipitation and soil moisture **[2,3]**. For example, the Dakotas lose 85% of their current

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3. Sea Level Rise: Controlled byNature not Humans

The most widely feared and also most misunderstood consequence of a hypothetical greenhouse warming is an accelerated rise in sea levels. But several facts contradict this conventional view:

a) Global average sea level has risen about 400 feet (120 meters) in the past 15,000 years, as a result of the end of the Ice Age. The initial rapid rise of about 200 cm (80 inches) per century gradually changed to a slower rise of 15–20 cm (6-8 in)/cy about 7500 years ago, once the large ice masses covering North America and North Europe had melted away. But the slow melting of the West Antarctic Ice Sheet continued and will continue, barring another ice age, until it has melted away in about 6000 years.

b) This means that the world is stuck with a sea level rise of about 18 cm (7 in)/yr, just what was observed during the past century. And there is nothing we can do about it, any more than we can stop the ocean tides.

c) Careful analysis shows that the warming of the early 1900s actually slowed this ongoing SL rise **[4],** likely because of increased ice accumulation in the Antarctic.

The bottom line : Currently available scientific evidence does not support any of the results of the NACC, which should therefore be viewed merely as a "what if" exercise, similar to the one conducted by the Office of Technology Assessment in 1993 **[5]**. Such exercises deserve only a modest amount of effort and money; one should not shortchange the serious research required for atmospheric and ocean observations, and for developing better climate models.

The NACC should definitely NOT be used to justify irrational and unscientific energy and environmental policies, including the economically damaging Kyoto Protocol. These policy recommendations are especially appropriate during the coming presidential campaigns and debates. I respectfully request that an expanded exposition **[6]** be made part of my written record.

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1. National Research Council. "Reconciling Temperature Trends" National Academy Press, Washington, DC. January 2000
2. R. Kerr. "Dueling Models: Future U.S. Climate Uncertain." Science 288, 2113, 2000
3. P.H. Stone. "Forecast Cloudy: The Limits of Global Climate Models." Technology Review (MIT), Feb/March 1992. pp.32-40.
4. S.F. Singer. Hot Talk, Cold Science: Global Warming's Unfinished Debate. (The Independent Institute, Oakland, CA. (second edition, p. 18).
5. Office of Technology Assessment. "Preparing for an Uncertain Climate" Govt. Printing Office, Washington, DC. 1993
6. S.F. Singer. "Climate Policy—From Rio to Kyoto: A Political Issue for 2000—and Beyond" Hoover Institution Essay in Public Policy No. 102. Stanford, CA, 2000.